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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,841	02/13/2001	Brian Wilk	42390P9993	2580

8791 7590 11/25/2002

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EXAMINER	
NGUYEN, TUNG X	
ART UNIT	PAPER NUMBER
2829	

DATE MAILED: 11/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/783,841	WILK, BRIAN
	Examiner	Art Unit
	Tung X Nguyen	2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 09/09/02 have been fully considered but they are not persuasive.

In re pages 4, 7, applicant argues Frederickson patent does not suggest or motivate an appropriate range of taper of the probe pins between about 10-25 degrees, and does not teach a rigid probe array.

In response, the examiner respectfully disagrees. Frederickson discloses the claimed invention except for a range of taper of the probe pins between about 10-25 degrees. It would have been obvious matter of design choice to choose appropriate range, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Furthermore, Fig. 6B of Frederickson clearly shows that the taper pins 626 are rigid, further Fig 8A-D also shows the pin portion 624 are rigid.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 7, 14, are rejected under 35 U.S.C. 102(b) as being unpatentable by Frederickson et al. (U.S.P 5,955,888).

As to claim 7, Frederickson et al. disclose in Fig. 6B, the probe pin array comprising: a housing (650, 640, 646, 610) having a first surface (bottom 610) and a second surface (top 650); a plurality of probe pins (620) extending between said housing first surface and said housing said second surface, wherein said plurality of probe pins extend substantially perpendicularly from said housing second surface; and at least one alignment guide (680) extending from said housing second surface (top 650) having at least one chamfered surface (682) oriented toward said plurality of probe pins (Col. 7, lines 37-42).

As to claim 14, Frederickson et al. disclose in Fig. 6B, the probe pin array comprising: a housing (650, 640, 646, 610) having a first surface (top 650) and a second surface (bottom 610); a carrier (670) having a first surface (bottom 670) and a second surface (top 670), wherein said carrier second surface abuts said housing first surface (via 690); a plurality of probe pins (620) extending between said carrier first surface (bottom 670) and said housing second surface (bottom 650) and extending between said housing first surface (top 650) and said housing second surface (bottom 650), wherein said plurality of probe pins extend substantially perpendicularly from said housing second surface; and at least one alignment guide (680) extending from said housing second surface (bottom 650) having at least one chamfered surface (680) oriented toward said plurality of probe pins (Col. 7, lines 37-42).

Claim R jections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, 5-9, 12-13,15-16, 19-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederickson et al. (U.S.P 5,955,888).

As to claims 1-2, 8-9, 15-16, Frederickson et al. disclose in Fig. 6B, a probe pin array, comprising: a housing (650, 640, 646, 610) having a first surface (bottom 610) and a second surface (top 650); and a plurality of probe pins (620) extending between said housing first surface and said housing said second surface, wherein said plurality of probe pins extend substantially perpendicularly from said housing second surface and wherein said plurality of probe pins (620) each further include a leading end having a taper (626). Fredrickson et al. do not mention a taper between about 10 and 25 degrees. However, It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose appropriate range of taper, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

As to claims 5, 12, 19, Frederickson et al. disclose in Fig. 6B, the probe pin array, further including an alignment guide (680) having a chamfered surface (682) with an angle of between about 45 and 70 degrees from planar with said housing second surface.

As to claims 6, 13, 20, Frederickson et al. disclose the claimed invention except for the chamfered surface has an angle of about 60 degrees from planar with said housing second surface. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose appropriate range of a chamfered surface, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

As to claim 7, Frederickson et al. disclose in Fig. 6B, the probe pin array comprising: a housing (650, 640, 646, 610) having a first surface (bottom 610) and a second surface (top 650); a plurality of probe pins (620) extending between said housing first surface and said housing said second surface, wherein said plurality of probe pins extend substantially perpendicularly from said housing second surface; and at least one alignment guide (680) extending from said housing second surface (top 650) having at least one chamfered surface (682) oriented toward said plurality of probe pins (Col. 7, lines 37-42).

6. Claims 3-4, 10-11, 17-18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederickson et al. (U.S.P 5,955,888) and in view of William lee Oates (3,599,093).

Claims 3, 10, 17, add the limitation of wherein the plurality of probe pins each comprises steel coated with gold. Frederickson et al. do not disclose the plurality of probe pins each comprise steel coated with gold. However, William lee Oates disclose the probe pin comprise steel coated with gold (Col. 6, lines 47-50) to low and uniform

electrical resistance (Col. 6, lines 47-50). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the system of Frederickson et al, and provide the probe pin comprise steel coated with gold since to low and uniform electrical resistance.

As to claims 4, 11, 18, Frederickson et al. in view of William lee Oates disclose the claimed invention except for the plurality of probe pins each has a diameter of between about 30% and 60% of a diameter of a pin of a pin grid array microelectronic device to be inserted into a socket to be tested by said plurality of probe pins. However, It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose appropriate range of a diameter of probe pins, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nam (u.s.p 5,850,148) Vertical probe card apparatus.

Doezema et al. (u.s.p 6,198,300) Silicided silicon microtips for scanning probe microscopy.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X Nguyen whose telephone number is (703) 305-3337. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703)-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-5841 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TN
November 18, 2002

KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800